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EXAMINER

CULLER, JILL E

ART UNIT PAPER NUMBER

2854

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,669

Applicant(s)

TANAKA ET AL.

Examiner

Jill E. Culler

Art Unit

2854

MW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

The specification is replete with grammatically improper language. The specification should be revised carefully in order to replace these terms with proper, idiomatic English. Examples of some grammatically improper language used in the specification are: On page 5, line 7, "assembly capable of being printer" is confusing. On page 18, line 1, the phrase "On the other hand" is used in an unusual context. On page 18, line 17, "moved in the reciprocation manner" is awkward. On page 23, lines 10-11, "are made stood as projections" is confusing. This language is not sufficiently clear to provide adequate description of the subject matter. These and similar errors must be addressed throughout the specification.

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Appropriate correction is required.

Claim Objections

2. Claims 7-8 are objected to because of the following informalities:

In claim 7, on line 2, the phrase "placed in a second side of the print head" is confusing, because from the disclosure it appears that the frame is on a side of the print head, but not actually in the print head.

In claim 7, lines 2-3, the phrase "opposite side of the first side" is awkward and could be rewritten to be less confusing.

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6,520,622 to Yusef et al.

Yusef et al. teaches a printer, 10, in which printing is performed on a recording medium, 19, which is transported in a first direction, comprising, a carriage, 30, reciprocally moved in a second direction which is perpendicular to the first direction, see column 3, lines 65-67, a print head, 12, mounted on the carriage, the print head having a head face, a first frame, 60, placed on a first side of the print head, and a first guide plate, 64, extending in the second direction which includes a first portion, 641, provided as a part of the first frame, 60, so as to extend in a third direction which is orthogonal to both the first and second directions, a second portion, 642, continued from

the first portion so as to extend in the first direction, the second portion supporting the carriage so as to define a distance between the head face and the recording medium, and a third portion, 643, continued from the second portion so as to extend in a fourth direction opposite to the third direction. Yusef et al. also teaches the carriage has a first guide member, 352, which is slid on a first face, 65, of the second portion, 643, of the first guide plate, 64, on a line situated substantially at the center of the second portion of the first guide plate, when the carriage moves in the second direction. Yusef et al. further teaches that either one of the first portion, 641, or the third portion, 643, of the first guide plate, 64, defines a position of the carriage in the first direction, and the carriage is provided with a second guide member, 38, which grips the third portion, 643, of the first guide plate, 64, so that the second guide member, 38, is slid thereon when the carriage moves in the second direction. Yusef et al. also shows that the carriage has a third guide member, 354, which is slid on a second face, 66, of the second portion, 642, of the first guide plate, 64, when the carriage moves in a second direction and the second face, 66, is an opposite face of the first face, 65.

5. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,447,183 to Ford.

Ford teaches a printer in which printing is performed on a recording medium, 45, which is transported in a first direction, comprising, a carriage, 10, reciprocally moved in a second direction which is perpendicular to the first direction, see column 2, lines 24-28, a print head, 16, mounted on the carriage, the print head having a head face, a first

frame placed on a first side of the print head, and a first guide plate, 12, extending in the second direction which includes a first portion provided as a part of the first frame so as to extend in a third direction which is orthogonal to both the first and second directions, a second portion continued from the first portion so as to extend in the first direction, the second portion supporting the carriage so as to define a distance between the head face and the recording medium, and a third portion continued from the second portion so as to extend in a fourth direction opposite to the third direction. Ford also teaches the carriage has a first guide member which is slid on a first face of the second portion of the first guide plate on a line situated substantially at a center of the second portion of the first guide plate, when the carriage moves in the second direction. Ford further teaches that either one of the first portion or the third portion of the first guide plate, 12, defines a position of the carriage in the first direction. See Fig. 2 in particular.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford in view of U.S. Patent No. 5,368,403 to Broder et al.

Ford teaches all that is claimed, as in the above rejection of claims 1-4, except that the carriage is provided with a second guide member which grips either one of the

first portion and the third portion of the first guide plate so that the second guide member is slid thereon when the carriage moves in the second direction or that the carriage has a third guide member which is slid on a second face of the second portion of the first guide plate when the carriage moves in a second direction and the second face is an opposite face of the first face.

Broder et al. teaches a printer having a carriage, 10, provided with a guide member, 70, which grips a portion, 84, of a guide plate, 8, so that the guide member, 70, is slid thereon when the carriage moves in the second direction. See column 4, lines 21-29. Broder et al. also shows that the carriage has a guide member, 66, which is slid on a second face of the portion, 84, of the guide plate, 8, when the carriage moves in a second direction. See Fig. 3.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the carriage of Ford to have the guide member arrangement of Broder et al. in order to grip a portion of the guide plate from both sides for additional stability during carriage movement.

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford. in view of Murayama et al.

Ford teaches all that is claimed, as in the above rejection of claims 1-4 except for a second frame, placed in a second side of the print head, opposite of the first side, a second guide plate, extending in the second direction which includes a fourth portion, provided as a part of the second frame so as to extend in the third direction, a fifth

portion, continued from the fourth portion so as to extend in the first direction, the fifth portion supporting the carriage so as to define the distance between the head face and the recording medium, and a sixth portion continued from the fifth portion so as to extend in the fourth direction, and that the carriage has a fourth guide member which is slid on the fifth portion of the second guide plate when the carriage moves in the second direction.

Murayama et al. teaches a printer, having a carriage and print head assembly, also having a second frame, placed in a second side of the print head opposite of the first side, a second guide plate, 13, extending in the second direction which includes a fourth portion, provided as a part of the second frame so as to extend in the third direction, a fifth portion, continued from the fourth portion so as to extend in the first direction, the fifth portion supporting the carriage, 70, so as to define the distance between the head face and the recording medium, and that the carriage has a fourth guide member, 71a, which is slid on the fifth portion of the second guide plate when the carriage moves in the second direction.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the second frame and fourth guide member of Murayama et al. with the carriage and print head assembly of Ford in order to provide additional guidance and stability for the print head during operation. It would also have been obvious to include a sixth portion of the guide plate, continued from the fifth portion and extending in a fourth direction in order to provide additional structural detail for the guide plate.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,195,836 to Longust et al. in view of U.S. Patent No. 6,109,726 to Lee.

Longust et al. shows a printer, 2, in which printing is performed on a recording medium which is transported in a first direction comprising a carriage, 8, on which a print head, 9, is mounted, reciprocally moved in a second direction which is perpendicular to the first direction, see column 2, lines 64-65, a first frame, 10, including a carriage guide, 60, 62, extending in the second direction such that the carriage moves therealong and supporting legs, 20, extending downward from both side portions of the carriage guide, and a second frame, 30, including first positioning members, 32, which define positions of the supporting legs in the first direction, second positioning members, 64, which define positions of the supporting legs in the second direction, third positioning members, 42, which define positions of the supporting legs in a third direction which is orthogonal to both of the first and second directions, and a supporting base, 30.

Longust et al. does not teach the distinction between a recording region in which the print head performs printing and a home position, provided in one of both sides of the recording region in the second direction at which the carriage is placed when the print head does not perform printing.

Lee teaches a printer with a carriage, 40, having a recording region in which the print head, 51, performs printing and a home position, 60, at a side of the recording region in the second direction at which the carriage is placed when the print head does not perform printing. See Fig.1 and column 1, lines 20-27 in particular.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the printer of Longust et al. with a recording region and a home position, as taught by Lee, in order to be able to more readily service the print head when it is not performing printing.

10. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,867,188 to Murayama et al.

Murayama et al. teaches a printer, 10, in which printing is performed on a recording medium, which is transported in a first direction, comprising a first guide plate, 12, extending in a second direction which is perpendicular to the first direction, see column 7, lines 1-3, a looped belt member, a drive motor, which circulates the looped belt member in the second direction, see column 6, lines 64-67, and a head assembly, 70, including a print head, 60, a belt holder, 72a, at which a part of the looped belt is fixed, and a first guided portion, 75b, provided on a first side of the print head and slid on the first guide plate, 12, in accordance with the circulation of the looped belt member. Murayama et al. also shows there is a second guide plate, 13, placed on a second side of the print head, which is an opposite side from the first side, so as to extend in the second direction, and the head assembly, 70, includes a second guided portion, 71a, slid on the second guide plate, 13, in accordance with the circulation of the looped guide member. Murayama et al. further shows that the first guided portion, 75b, is slidably held on the first guide plate, 12, while defining a position of the print head in the first direction and the head assembly, 70, includes a third guided portion, 72, slidably held

on the first guide plate, 12, while defining a position of the print head in a third direction which is orthogonal to both of the first and second directions.

It is noted that reference numeral 12 of Murayama et al. actually refers to a guide shaft rather than a guide plate. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a guide plate in place of the guide shaft of Murayama et al. as a shaft and a plate are mechanical equivalents.

Response to Arguments

11. Applicant's arguments filed September 22, 2003 have been fully considered but they are not persuasive.

With respect to applicant's argument that the Yusef reference can be antedated by the applicant's claim to foreign priority, although applicant refers to a certified translation of applicant's priority document, no copy of this document appears to have been included with the action. Also, there is no reference to the document in the applicant's table of contents for the action. Although this may have merely been an oversight, the priority cannot be established until this document is received and therefore the original rejection has been maintained.

With respect to applicant's argument that the Murayama reference clearly distinguishes between a guide plate and a guide shaft, the examiner acknowledges this distinction. However, the guide shaft and guide plate are mechanical equivalents of each other, offering no substantial functional difference to the invention.

With respect to applicant's argument with respect to the rejection of claim 9, the examiner has amended the rejection to indicate that reference numeral 30 is considered the second frame, instead of 50 as previously indicated.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (703) 308-1413. The examiner can normally be reached on M-Th 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

jec


Dan Colilla
Primary Examiner
Art Unit 2854